

Date: Thursday, 2/9/2006 1:35:40 PM
 User: Kim Johnston

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	EXTRUSION "I" BEAM WEB 4"
Job Number :	25751		
Estimate Number :	10155		
P.O. Number :	N/A	Part Number :	D25003100
This Issue :	2/9/2006	S.O. No. :	N/A
Prsht Rev. :	NC	Drawing Number :	D2500 REV F1
First Issue :	N/A	Project Number :	N/A
Previous Run :	N/A	Drawing Revision :	F1
	Type :	Material :	N/A
	PURCHASED PARTS	Due Date :	2/28/2006
Written By :	Qty:		180 Um: Each
Checked & Approved By :	SER (COMMENT BELOW) 06.02.10		
Comment :	Est: E 02.09.10 Added DSK 066 KJ		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	PG	PURCHASING
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Comment: PURCHASING

Issue P/O: 00000573

a) Extrude as per Dwg D2500

b) Material: 6061-T6 (QQ-A-200/8)

c) Minimum yield tensile strength = 35 ksi

d) Minimum ultimate tensile strength = 38 ksi

e) Minimum elongation = 10%

f) Order at 100" long

g) Caradon Indalex Tool # MS-18867

h) To be packed per DSK 066

i) Pull test to ASTM standard B221 required.

j) Material certification is required

2.0	D25003100	Ext'n - "I" Beam Web 4"
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Comment: Qty.: 0.0000 Each(s)/Unit Total : 0.0000 Each(s)
 EXTRUSION "I" BEAM WEB 4"

3.0	PACKAGING 1	PACKAGING RESOURCE #1
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Comment: PACKAGING RESOURCE #1

Receive & Inspect For Transit Damage

Ensure material certification is attached

4.0	QC6	DIMENSIONAL CHECK
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Comment: DIMENSIONAL CHECK

Inspect dimensions per Dwg D2500

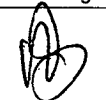
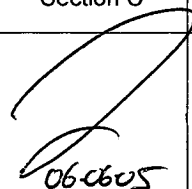

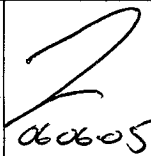
Check Pull test per Dwg D2500 for compliance page attached.

Check hardness with Webster tester

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: RT Date: 06/06/05
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06-06-05	4	Beam has a mark in the middle .040 deep : .040 wide	 QGF12	use for tooling. web is unacceptable for production		 06-06-05	 QGF12	 06-06-05

NOTE: Date & initial all entries

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: EXTRUSION 'I' BEAM WEB 4"

Job Number: 25751

Part Number: D25003100

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

PACKAGING 1

PACKAGING RESOURCE #1



206-06-03 (224)



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: LG

PTD

6.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

206-06-05 (224)

Job Completion



206-06-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN <i>DMJ</i>	DRAWN BY <i>DMJ</i>	DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED <i>KE</i>	APPROVED <i>DMJ</i>	DRAWING NO. D2500	REV. F SHEET 1 OF 2
DATE 97:09:29		TITLE EXTRUSION	SCALE NTS
A	96:03:19	NEW ISSUE	
B	96:03:24	CHANGE INTERNAL WEB	
C	96:04:26	ADD D2500-3 WEB	
D	96:10:07	ADD MATERIAL PROPERTIES	
E	96:10:24	CHANGE MATERIAL TEMPER	
F	97:09:29	CHANGE MAT. TO 6061-T6	
F1	01.04.17	ADD NOTES 4 & 5 <i># UP</i>	

RELEASED
97/10/06 DS

- MATERIAL: 6061-T6 (QQ-A-200/8)
MINIMUM TENSILE YIELD STRENGTH = 35 ksi
MINIMUM ULTIMATE TENSILE STRENGTH = 38 ksi
MINIMUM ELONGATION = 8 %

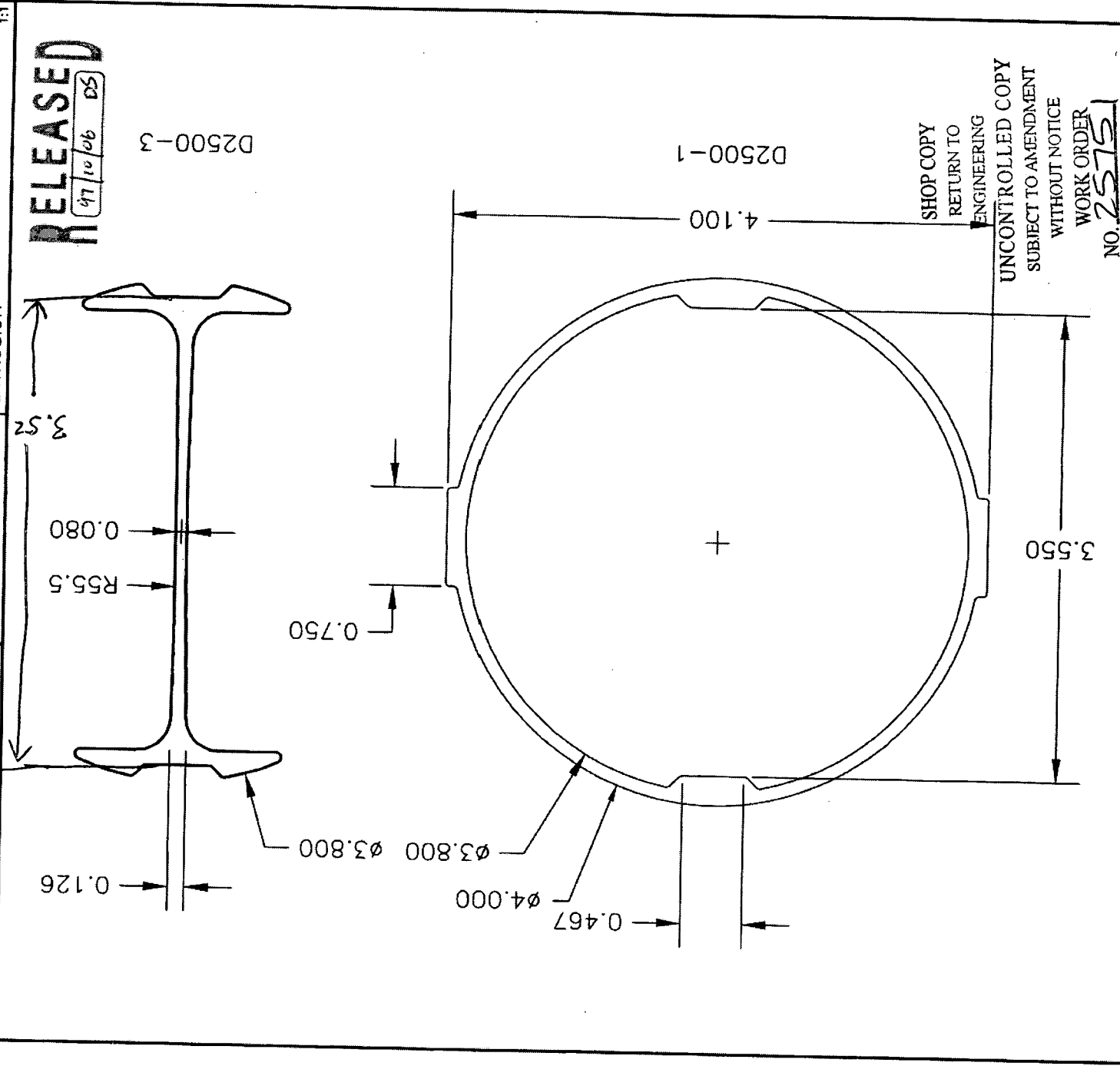
A SAMPLE FROM EACH BATCH WILL BE PULL TESTED TO ASTM STANDARD B221 BY AN APPROVED TESTING FACILITY TO ENSURE THAT THE BATCH MEETS THE ABOVE MINIMUM MECHANICAL PROPERTIES.
- BREAK ALL SHARP CORNERS 0.010 MAX
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- FOR D2500-1, PART NUMBER IS D2500-1-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2500-1-190 IS 190" LONG)
D2500-1 EXTRUSION MANUFACTURED FROM: a) BON L DIE # 897105 → PREFERRED
b) CARADON MIDEAST DIE # PAH-28030
c) CARADON MTL DIE # MH-18868
- FOR D2500-3, PART NUMBER IS D2500-3-XXX WHERE XXX IS CUT LENGTH IN INCHES (EG. D2500-3-100 IS 100" LONG)
D2500-3 EXTRUSION MANUFACTURED FROM CARADON MIDEAST DIE # MH-18868

SHOP COPY
IS CUT
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
25751

DART



DESIGN		DRAWN BY		DART AEROSPACE LTD VICTORIA INTERNATIONAL AIRPORT, CANADA	
CHECKED	APPROVED	DRAWING NO.		REV. F	
KE	MDX	D2500		SHEET 2 OF 2	
DATE		TITLE		SCALE	
97:09:29		EXTRUSION		1:1	



PART AEROSPACE LTD
270 ABERDEEN STREET
LAWKESBURY, ONT

EXPÉDIÉ / SHIP TO

INDICATIONS SPÉCIALES
SPECIAL INSTRUCTIONS

P/S#: 532927

NOTRE NUMÉRO DE COMM.
OUR ORDER NO.

6021712 1

MÊME - SAME

6A1K7

CUSTOMER P.S.T. : *6122-5207

INDALEX G.S.T. REG NO: R136834041

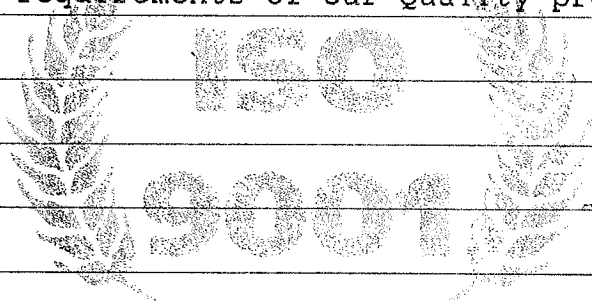
Required Date:

DU CLIENT ST. NO. 201355	T.P.S. G.S.T. XXXXXX	TAXE DE VENTE PROV. PROV. SALES TAX	N° DE COMM. DU CLIENT CUST. ORDER NO. 573	DATE DE COMMANDE ORDER DATE 6/02/14	NOTRE DATE DE COMM. OUR ORDER DATE 6/02/14	CONDITIONS TERMS
DEUR ESMAN 51	EXPÉDIÉ PAR SHIP VIA NOTRE CAMION OUR TRUCK	PAYÉ PPD. <input checked="" type="checkbox"/>	PERC. COL. <input type="checkbox"/>	C.A.D. C.O.D. <input type="checkbox"/>	F.A.B. F.O.B. <input type="checkbox"/>	NOTRE USINE OUR PLANT
		EN BALLOTS BUNDLED AND TAPED <input type="checkbox"/>	CARTONNÉ CARTONED <input type="checkbox"/>		CARTONNÉ & INTERCALE CARTONED & INTERLEAVED <input type="checkbox"/>	

DATE DE LIVRAISON DATE SHIPPED 6/03/02		ENVOYÉ PAR SHIPPED VIA OTTAWA 3 MARS	
COMMANDE / ORDERED		CETTE EXPÉDITION THIS SHIPMENT	
POIDS WEIGHT	PIÈCES PIECES	BALLOTS BOLLS	POIDS WEIGHT
0	0	3	686
		229	
		POIDS EN KGS	

COMMANDE / ORDERED	N° DE MATRICE INDALEX DIE NO.	DESCRIPTION DU CLIENT CUSTOMER DESCRIPTION	ALLIAGE ET TREMPAGE ALLOY AND TEMPER	LONGUEUR LENGTH	PRIX UNITAIRE UNIT PRICE
F		EXTRUDE ONLY			
		DUE=2006/03/03 ASAP			
1	538	180 MS 18867 D2500-3-100	6061 T6	2540	
		D2500-3			
		BUNDLE= 681801 681802 681869			

I hereby certify that the material supplied meets the chemical properties as published by the Aluminum Association, and requirements of our Quality procedures





325 rue Avto
Pointe-Claire QC H9R 5W3

Téléphone (514) 697-5120
Fac-simile (514) 694-8310

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**
Adresse / Address : **1270 ABERDEEN STREET**
HAWKESBURY ONT,
K6A 1K7

commande Indalex / Indalex order # : **6021712**

bon de commande / Purchase order # : **573**

de matrice / Die # : **M5 18867** Description : **D2500-3**

Alliage & trempage / Alloy & temper : **6061 T6**

Contrôle / Control # : **9765-2**

Coulée / Cast # : **37222**

	Min. requis Min. required	Résultat actuel Actual results
Tension ultime Ultimate stress (psi)	98 000	41985
Contrainte élastique Yield stress (psi)	35 000	38076
% elongation dans 2" % elongation in 2"	8	9
Dureté Rockwell E (hrs) Rockwell E Hardness (hrs)	68 @ 100	93

Composition chimique typique / Typical chemical composition :

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6063	0,25 - 0,60	0,13 - 0,25	0,10 Max	0,10 Max	0,35 - 0,73	0,10 Max	0,05 Max	0,05 Max
6065	0,68 - 0,72	0,15 - 0,27	0,04 - 0,08	0,06 - 0,08	0,48 - 0,52	0,03 Max	0,05 Max	0,03 Max
6065A	0,65 - 0,75	0,15 - 0,27	0,15 Max	0,20 - 0,30	0,48 - 0,55	0,10 Max	0,05 Max	0,05 Max
6061	0,50 - 0,76	0,13 - 0,29	0,15 - 0,28	0,10 Max	0,80 - 1,00	0,04 - 0,14	0,08 Max	0,05 Max
6381	0,7 - 1,3	0,5 Max	0,10 Max	0,40 - 0,80	0,40 - 0,80	---	0,50 Max	0,20 Max

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme ASTM B-221 et AMS QQA 200/8 ainsi que les exigences de nos procédures de contrôle de qualité.

We hereby certify that the material supplied meets the chemical properties as published by the ASTM B-221 and AMS QQA 200/8 standard and requirements of our quality control procedures.

Sincèrement vôtre,
Yours truly,

date : 2006-03-06

Bruno Morency
Technicien de la qualité
Quality technician



325 rue Avro
Pointe-Claire QC H9R 5W3

Téléphone (514) 697-5120
Fac-simile (514) 694-8310

Rapport des propriétés mécaniques Mechanical Properties Test Report

Client / Customer : **DART AEROSPACE LTD**
Adresse / Address : **1270 ABERDEEN STREET**
HAWKESBURY ONT,
K6A 1K7

commande Indalex / Indalex order # : **6021712**

bon de commande / Purchase order # : **573**

de matrice / Die # : **MS 18867** Description : **D2500-3**

Alliage & trempage / Alloy & temper : **6061 T6**

Contrôle / Control # : **9785-1**

Coulée / Cast # : **37217**

	Min.requis Min.required	Résultat actuel Actual results
Tension ultime Ultimate stress (psi)	38 000	40232
Contrainte élastique Yield stress (psi)	35 000	37578
% élongation dans 2" % elongation in 2"	8	8
Dureté Rockwell E (hre) Rockwell E Hardness (hre)	88 @ 100	92

Composition chimique typique / Typical chemical composition :


	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti
6063	0,28 - 0,60	0,13 - 0,25	0,10 Max	0,10 Max	0,35 - 0,73	0,10 Max	0,05 Max	0,05 Max
6005	0,68 - 0,72	0,15 - 0,27	0,04 - 0,08	0,06 - 0,08	0,48 - 0,52	0,03 Max	0,05 Max	0,03 Max
6005A	0,65 - 0,75	0,15 - 0,27	0,15 Max	0,20 - 0,30	0,45 - 0,55	0,10 Max	0,05 Max	0,05 Max
6061	0,50 - 0,76	0,13 - 0,29	0,15 - 0,28	0,10 Max	0,80 - 1,00	0,04 - 0,14	0,08 Max	0,08 Max
6351	0,7 - 1,3	0,6 Max	0,10 Max	0,40 - 0,80	0,40 - 0,80	—	0,50 Max	0,20 Max

Nous certifions que le matériel fourni rencontre les exigences chimiques telles qu'annoncées par la norme ASTM B-221 et AMS QQA 200/8 ainsi que les exigences de nos procédures de contrôle de qualité.

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Sincèrement vôtre,
Yours truly,

date : 2006-03-06


Bruno Morency
Technicien de la qualité
Quality technician



INDALEX LIMITED
325 AVRO Street
POINTE-CLAIRE, QC H9R 5W3
TELEPHONE: (514) 697-5120 & (800) 563-5120
FACSIMILE: (514) 694-8310 & (800) 563-8310

FACSIMILE TRANSMITTAL SHEET

TO: Christina Young

FROM: Bruno Morency
Quality Technician

COMPANY:

DART AEROSPACE LTD

DATE:

2006/03/06

FAX NUMBER:

1(613) 632-4443

TOTAL NO. OF PAGES INCLUDING COVER:

3

PHONE NUMBER:

SENDER'S REFERENCE NUMBER:

SUBJECT:

REPORT

TIME:

☐ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Mechanical properties report.

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